

NetApp® iSCSI AIX Host Utilities Quick Command Reference

iSCSI service management commands	
iscsi start stop	Starts or stops the iSCSI service.
iscsi nodename [<i>new_nodename</i>]	Displays or sets the iSCSI target node name.
iscsi alias [-c <i>new_alias</i>]	Displays, sets, or clears an alias for the iSCSI target node name.
iscsi initiator show	Displays information about initiators connected to the target. (Data ONTAP® 7.1 & later)
ifconfig [-a <i>interface</i>]	Displays or configures network parameters for the specified interface. Use -a to display all network interfaces.
Data ONTAP 7.0.x commands	
iscsi config [<i>adapter</i> [up down]]	Configures the iSCSI target adapter up or down. Leave off up or down to display configurable information. Omit <i>adapter</i> to display all.
iscsi show adapter [<i>adapter...</i>]	Displays target adapter information for specified logical adapters.
iscsi show initiator [<i>adapter...</i>]	Displays information about initiators connected to specified adapters.
iSCSI software target and session management commands	
iscsi interface show [-a <i>interface ...</i>]	Shows which network interfaces are enabled for iSCSI traffic.
iscsi interface enable {-a <i>interface...</i> }	Enables use of specified network interfaces for iSCSI traffic. Use -a to enable all. Only gigabit Ethernet interfaces are recommended for iSCSI.
iscsi interface disable [-f] {-a <i>interface...</i> }	Disables use of specified network interfaces for iSCSI traffic. Use -a to disable all. Use -f to force termination of current sessions.
Data ONTAP 7.1 and later commands	
iscsi session show [-v] [<i>session_num</i>] iscsi connection show [-v] [<i>sess conn</i>]	Shows status of one session or connection, or for all if no session number (and connection number for connection show) is specified.
iscsi tpgroup create [-f] [-t <i>tpgtag</i>] <i>tpgroup_name</i> [<i>interface ...</i>]	Creates user-defined target portal group. Needed for multi-connection sessions. All session connections must use interfaces in the same target portal group.
iSCSI authentication (CHAP) management commands	
iscsi security add -i initiator -s CHAP -p inpassword -n inname	Defines authentication method for specified initiator. For <i>initiator</i> , use node name in iqn format. AIX does not support bidirectional (mutual) CHAP. The initiator uses its iSCSI node name as its CHAP user name.
iscsi security default -s CHAP -p inpassword -n inname	Sets the default authentication method, user name, and password for all initiators not specifically configured.
iSCSI target status, performance, and troubleshooting commands	
iscsi status	Displays current status of the iSCSI service.
iscsi stats	Displays numbers of iSCSI PDUs and CDBs, and error statistics.
ifstat [-z] -a <i>interface</i>	Displays device-level statistics for the specified network interface. Use -z to clear statistics. Use -a to display statistics for all interfaces.
sysstat -i [<i>interval</i>]	Displays iSCSI performance statistics. <i>interval</i> is integer reporting interval in seconds; default is 15 seconds.
lun stats [-z] [-o] [-a <i>lun_path</i>]	Displays block access statistics for the specified LUN. Use -z to clear statistics. Use -o for extended stats, -a to display stats for all LUNs.
LUN and igroup management commands	
vol options <i>vol_name</i> nosnap on	Turns off schedule snapshots for a volume containing LUNs. Strongly recommended to enable use of space reservations.
lun setup	Interactive LUN creation. Combines the lun create , igroup create , igroup add , and lun map command functions.
lun create -s size [-t aix hpux image netware linux solaris vld vmware windows] <i>lun_path</i>	Manual LUN creation. Enter <i>size</i> as integer bytes with one of the following suffixes: m (megabytes), g (gigabytes), or t (terabytes).
igroup create -i [-t aix hpux default linux netware solaris vmware windows] <i>initiator_group</i> [<i>node...</i>]	Creates a new iSCSI initiator group. Optionally specify the initiator node names (<i>node...</i>) or add them using the igroup add command.
igroup show [<i>initiator_group</i>]	Displays the initiator nodes in the specified initiator group. Omit <i>initiator_group</i> to see all igroups.
igroup add <i>initiator_group node...</i>	Adds initiator nodes to the specified igroup.
lun map <i>lun_path</i> <i>initiator_group</i> [<i>lun_id</i>]	Makes the specified LUN accessible to initiators in the specified igroup. Specify optional LUN ID, or take default of lowest available value.
lun show [-v -m -c] [all mapped offline online unmapped] <i>lun_path</i> [-g <i>initiator_group</i>]	Displays general (-v), mapping (-m), or clone (-c) information about the specified set of LUNs.
lun online offline <i>lun_path...</i>	Enables or disables block-protocol access to the specified LUNs.
lun move <i>lun_path to_lun_path</i>	Moves a LUN to a new path in the same volume.
lun destroy [-f] <i>lun_path...</i>	Destroys the specified LUNs and all their data. Use -f if LUN is in use.

General iSCSI notes	
The FilerView™ GUI can also be used for the above commands (http://stor_sys_ip_address/na_admin).	The iSCSI service on the storage system uses IP port 3260.
The format of an iSCSI node name is iqn.yyyy-mm.reverse_domain_name:anything and is automatically set on the storage system (target) and each host (initiator). NetApp recommends that you use the host name for the <i>anything</i> portion of the initiator node name.	
iSCSI initiator configuration	
chdev -l iscsi0 -a initiator_name=iqn.1996-04.com.ibm:string	Sets the iSCSI node name of the initiator. The value of <i>string</i> must be unique; the host name is recommended. NOTE: The default initiator name does not work with Data ONTAP and must be changed.
lsattr -El iscsi0	Verifies the new initiator node name.
oslevel [-r]	Displays the AIX technology (maintenance) level.
lspp -l grep devices.iscsi	Verifies the iSCSI installation and device driver version.
iSCSI initiator files	
/etc/iscsi/targets	Adds an entry for each storage system. The entry format is as follows: HostNameOrAddress 3260 iSCSIName [CHAPSecret]
VIO Sever Commands	
oem_setup_env	Places the padmin user into the OEM mode to enable VIO server to become root and run Host Utilities/storage system commands such as sanlun , and AIX commands such as cfgmgr . Server stays in this mode until you enter exit command.
Accessing LUNs	
cfgmgr [-l iscsix]	Discovers new LUNs on the host.
lsdev -Cc disk	Lists all AIX disks, including Data ONTAP LUNs.
lsattr [-El iscsix]	Displays information about the iSCSI initiators.
lsattr [-El hdiskx]	Displays information about the specified LUNs.
/opt/NetApp/santools/bin/sanlun lun show all	Lists available LUNs as seen by the sanlun script.
iostat [-a] [-T] [-d hdiskx] interval	Displays host I/O statistics.
df	Lists all mounted file systems.
Troubleshooting	
ping storage_system_IP_address (from host console) ping host_IP_address (from storage system console)	Verifies basic network connectivity between storage system and host.
license (from storage system console)	Verifies that iSCSI is licensed on the storage system.
ifconfig (from storage system console and host console)	Verifies that network parameters are compatible on host and storage system, especially duplex and jumbo frame (mtu) settings.
If using jumbo frames, verify that jumbo frames are configured on all switches between the host and storage system.	
If using CHAP, verify correct user name and password. The AIX host uses its iSCSI node name as its CHAP user name. The CHAP password is configured in the host's /etc/iscsi/targets file. These same CHAP values are configured as the <i>incoming</i> user name and password on the storage system. AIX does not support bidirectional (mutual) CHAP.	
Check the log file on the storage system (/etc/messages) for error messages.	
Search the NetApp Service and Support Knowledgebase at https://now.netapp.com/eservice/SupportHome.jsp for information about the problem.	
Before contacting NetApp Global Services with a problem, run the /opt/NetApp/santools/bin/aix_info and /opt/NetApp/santools/bin/filer_info scripts on the host to collect information to help diagnose the problem.	
Resources	
http://now.netapp.com	All NetApp documentation and software downloads.
http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/iscsi_support_matrix.shtml	iSCSI support matrix.